## REMARKS

Applicant has carefully reviewed and considered the latest communications from the US Patent Office. Applicant respectfully traverses Examiner's rejection and requests reconsideration in view of the remarks that follow.

***Claim Rejections – 35 U.S.C. §102(b)***

Claims 1, 2, and 6 stand rejected under 35 U.S.C. § 102(b) as anticipated by Guzman-Casillas. Applicant respectfully traverses this rejection in that not all claimed elements are taught or described by the Guzman-Casillas reference.

Applicant thanks Examiner for the concise summary of the Guzman-Casillas reference on page 6 of the present office action. Examiner states "Guzman-Casillas makes the determination at 130, whether m less than or equal to Zr1new (checking for close-in fault), if yes send the m value to trip, if no, make further determination including smoothness, and if the smoothness criteria is met, *then send the m-value is sent to trip.*" Office Action of 7 May 2007, page 6, emphasis added. It is important to note that according to Examiner's interpretation as well as the Guzman-Casillas reference itself, it is *not a filtered m-value that is sent to "trip"*. This is one item that helps to illustrate the differences between the claimed invention and the Guzman-Casillas reference.

*Not All Claimed Elements Taught – "Filter Circuit Responsive to Said Quantity for Filtering Said Quantity"*

Claim 1 requires "a filter circuit responsive to said quantity for filtering said quantity before the quantity is applied to the distance element, resulting in a noise attenuation of the quantity". It should be noted that the "quantity" is "quantity analogous to the distance between the relay and a fault on the power line" and is produced "by a calculation circuit responsive to voltage and current values from the power line". Claim 1 further requires "a control circuit for controlling *the application of the filtered quantity to the distance element*". Emphasis added.

Applicant respectfully puts forth that step 140 of the Guzman-Casillas reference is not a filter circuit. The Guzman-Casillas reference states "a smoothness *comparison* is made at 140." Further, "[i]f the smoothness criteria is not satisfied, then the processing cycle ends. If the

smoothness meets the established criteria, indicating that the transients have died down, then a trip signal is also produced." Column 11, lines 31-37, emphasis added. Thus, because step 140 simply compares two inputs (the smoothness and the smoothness criteria) and produces a binary output (1 or 0) instead of the "noise attenuation of the quantity" of claim 1, then the step 140 (a comparator) of the Guzman-Casillas reference cannot teach or disclose the claimed filter of claim 1.

The office action further alludes that the claimed filter is taught or disclosed in "the circuit in Figure 6". Applicant respectfully traverses this assertion. Figure 6 of the Guzman-Casillas reference illustrates a logic diagram of the transient detection circuit. Examiner states that it is clear that the Guzman-Casillas reference discloses a filter as one input to comparator 72 ( | mab(k) – mab(k-1) | ). Even if that input to comparator is a filter, and even assuming, *arguendo* that this filter meets the criteria of the claimed filter, the output of comparator 72 cannot be the claimed result of "a noise attenuation of the quantity".

Accordingly, the Guzman-Casillas reference does not teach a filter as claimed in the present application.

*Not All Claimed Elements Taught – "A Control Circuit for Controlling the Application of the Filtered Quantity to the Distance Element"*

Even assuming that the output of the comparator 72 could be defined as "noise attenuation of the quantity", Guzman-Casillas still does not teach or suggest all of the claimed elements. Claim 1 requires "a control circuit for controlling *the application of the filtered quantity to the distance element*". Emphasis added. Even assuming *arguendo* that either step 140 or the comparator 72 could be the filter as claimed in claim 1, and that they result in "a noise attenuation of the quantity" as claimed in claim 1, the output is not applied to the distance element, as required by claim 1.

The distance element of the present application is described in paragraph 0016. The output of the distance element is used to control the circuit breaker. Particularly, "when the m' value is greater than the set reach value, the relay does not produce a trip signal to its associated breaker, while when the m' signal is less than the set reach value, the distance element will produce a trip signal which operates the circuit breaker." Paragraph 0016. In short, the distance

element compares the m' value (which is either the m-value or the filtered m-value, $m_s$) with the set reach value. If the m' value is less than the set reach value, then trip.

The Guzman-Casillas reference also includes a distance element. It is comparator 76 of Figure 6, and described in column 8, lines 37-50 of the specification. As is well-defined in the Figure as well as the text, the inputs to comparator 76 are a threshold value for zone 1 AB and mab (the m-value for an a-phase-to-b-phase fault). The output of comparator 72 is not an input to comparator 76. Indeed, the comparator 76 works in parallel with comparator 72, as each produce inputs to the AND gate 74. Because the output of the assumed "filter" is not applied to the distance element, the Guzman-Casillas reference cannot teach or suggest "a control circuit for controlling *the application of the filtered quantity to the distance element*". Claim 1, emphasis added.

Turning now to step 140 of Figure 9 of the Guzman-Casilas reference, again the output of this assumed "filter" is not applied to a distance element as required by claim 1 of the present application. This element is neither taught nor suggested. Examiner alludes that step 140 is a "filter". The steps that compare an m-value to a set reach value are steps 130, and 134, comparing m to $Z_{R1NEW}$ or $Z_{R1}$, thus the distance element may be included in step 130 and/or step 134. However, Guzman-Casillas does not teach that the output of step 140 ever applied to a distance element (either step 130 or step 134). In fact, Guzman-Casillas teaches that the output of step 140 *is not applied to a distance element.* Indeed it is the outputs of the distance elements that trigger step 140 to be taken. As can be seen from Figure 9, the outputs of step 140 either cause a trip (step 132) or an end. Neither of these steps have outputs leading to a distance element (either step 130 or step 134). Thus neither Figure 9 nor the accompanying description teach or suggest "a control circuit for controlling *the application of the filtered quantity to the distance element*". Claim 1, emphasis added.

Thus, the element of claim 1 of a control circuit for controlling the application of the filtered quantity to the distance element is neither taught nor suggested by the Guzman-Casillas reference because the outputs of the "filters" of the Guzman-Casillas reference are never applied to any distance element.

Because the Guzman-Casillas reference does not teach or suggest a filter as claimed in claim 1, the rejection under 35 U.S.C. §102(b) of claim 1 is improper. Even if it is assumed that

the Guzman-Casillas reference does teach or suggest a filter as claimed in claim 1, the Guzman-Casillas reference does not teach or suggest a control circuit for controlling the application of the filtered quantity to the distance element. Thus, the rejection of claim 1 under 35 U.S.C. §102(b) as anticipated by the Guzman-Casillas reference is improper. Applicant kindly asks Examiner to reconsider this rejection of claim 1.

***Claim Rejections – 35 U.S.C. §103***

Because, as described above, not all elements of the independent claim 1 are taught or suggested by the cited prior art, any rejection of the claims that depend on claim 1 are improper.

As to independent claim 14, similar to claim 1, this claim requires "providing the filtered m value to the distance element when the first binary output comprises a high binary value and the second output comprises a low binary value." Examiner relies on the Guzman-Casillas reference to teach or suggest the filter and the providing the filtered m value to the distance element. As with claim 1, Applicant respectfully puts forth that the Guzman-Casillas reference does not teach or suggest the claimed filter. Even if it did, the Guzman-Casillas reference does not teach providing the filtered m value to the distance element. Applicant describes why Guzman-Casillas does not describe these elements in the sections above.

Applicant respectfully requests Examiner to reconsider the rejection under 35 U.S.C. §103 in light of these remarks.

***Other Claim Amendments***

Applicant has cancelled claims 8-11.

**CONCLUSION**

Accordingly, after review of the previous correspondence along with the further clarifications of this communication, Applicant respectfully submits this application is now in condition for allowance. Applicant therefore requests issuance of a timely notice of allowance. However, should Examiner be of the opinion that further amendment or response is required; Applicant encourages Examiner to contact the undersigned attorney at the attorney at the telephone number set forth below. Further, although no additional fees are believed to be due at this time, the Commissioner is authorized to charge any additional fees or deficiencies or credit

any overpayments to Cook, Alex, McFarron, Manzo, Cummings & Mehler, Ltd., Deposit Account No. 50-1039 with reference to attorney docket number (1444-0093).

Respectfully submitted,

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